

REMARKS

The present application includes claims 1-22. Claims 1-20 were rejected by the Examiner. By this amendment, claims 1 and 11 have been amended. Claims 21 and 22 have been added.

Claims 1-7, 10-17, and 20 were rejected under 35 U.S.C. §102(c) as being anticipated by Jackson et al. (U.S. Patent No. 6,527,717).

Claims 8, 9, 18, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jackson, as applied to claims 1 and 11.

I. THE SECTION 102 REJECTIONS

The Applicant first turns to the Examiner's rejection of claims 1-7, 10-17, and 20 under 35 U.S.C. § 102(e) as being anticipated by Jackson. Jackson relates to tissue motion systems and methods. In Jackson, motion estimation is determined in two dimensions. (col. 4, lines 60-63). The two dimensional motion estimation is accomplished by tracking a plurality of regions. (col. 7, lines 39-41). In each region, the angle, magnitude, and/or velocity of motion is determined using the tracking. (col. 7, lines 40-45). Jackson then teaches using the two dimensional motion estimation for various computations, such as computing strain rate. (col. 11, lines 2-12). However, Jackson simply states that tissue movement may be displayed, without any further reference to how the information should be displayed. (col. 3, line 2, 8, and 13; col. 4, line 34; col. 9, line 59; col. 11, lines 32-34, 43).

In the present invention, a user interface enables a user of the machine to overlay the image being displayed with a first pattern of indicia corresponding to sampled anatomical locations within the moving structure. A second pattern of indicia is then

generated which corresponds to the displacement of the anatomical locations. The second pattern of indicia may be overlaid on the image display.

The system of Jackson does not teach a display arranged to display the image of the moving structure, wherein said display displays at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. This limitation is recited in independent claim 1 of the present invention, as amended. Furthermore, Jackson does not teach overlaying an image with at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. This limitation is recited in independent claim 11 of the present invention, as amended. Rather, Jackson simply displays an image without showing any indicia of displacement. The dashed lines shown in Figures 3A and 3B of Jackson are simply figure drafting techniques used to illustrate on paper that the images displayed in Jackson are moving images. Dashed lines or other indicia do not appear in and are not taught by Jackson.

Thus, Jackson does not teach the limitations of claims independent claims 1 or 11, or their dependent claims. Therefore, the Applicant respectfully submits that the claims of the present application should be allowable.

II. THE SECTION 103 REJECTIONS

Next, the Applicant turns to the Examiner's rejection of claims 8, 9, 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Jackson as applied to claims 1 and 11. However, as mentioned above, Jackson simply states that tissue movement may be displayed, without any further reference to how the information should be displayed. (col. 3, line 2, 8, and 13; col. 4, line 34; col. 9, line 59; col. 11, lines 32-34, 43).

In the present invention, a user interface enables a user of the machine to overlay the image being displayed with a first pattern of indicia corresponding to sampled anatomical locations within the moving structure. A second pattern of indicia is then generated which corresponds to the displacement of the anatomical locations. The second pattern of indicia may be overlaid on the image display.

The system of Jackson does not teach or suggest a display arranged to display the image of the moving structure, wherein said display displays at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. This limitation is recited in independent claim 1 of the present invention, as amended. Furthermore, Jackson does not teach or suggest overlaying an image with at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. This limitation is recited in independent claim 11 of the present invention, as amended. Rather, Jackson simply displays an image without showing any indicia of displacement. The dashed lines shown in Figures 3A and 3B of Jackson are simply figure drafting techniques used to illustrate on paper that the images displayed in Jackson are moving images. The dashed lines or other indicia do not appear in and are not taught or suggested by Jackson.

Although Jackson references various timing events and portions of the cardiac cycle, Jackson makes no reference to utilizing any portion of the cardiac cycle in relation with displaying the displacement of the anatomical locations corresponding to the pattern of indicia during at least a portion of a cardiac cycle and responsive to parameter signals to generate a second pattern of indicia corresponding to the displacement of the

anatomical locations and to overlay the second pattern of indicia on the image on the display.

Thus, Jackson does not teach or suggest the limitations of independent claims 1 or 11 or their dependent claims. Therefore, the Applicant respectfully submits that the claims of the present application should be allowable.

By this response, claims 1 and 11 have been amended. Claim 1 recites the added limitation of a display arranged to display the image of the moving structure, wherein said display displays at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. Claim 11 recites the additional limitation of overlaying the image with at least one pattern of indicia corresponding to sampled anatomical locations within the moving structure. As discussed above, Jackson does not teach or suggest these limitations. Rather, Jackson simply states that tissue movement may be displayed, without any further reference to how the information should be displayed. Therefore, Applicants respectfully submit that the claims are allowable.

The Applicant also submits two new claims for the Examiner's consideration. Claims 21 and 22 have been added to the application. The Applicant submits that no new matter has been added to the application by claims 21 and 22. The Applicant respectfully submits that claims 21 and 22 should be allowable.

CONCLUSION

Accordingly, the application as amended is now believed to be in condition for allowance and an action to this effect is respectfully requested. If the Examiner has any questions or the Applicant can be of any assistance, the Examiner is invited and encouraged to contact the Applicant at the number below. Please charge any additional fees or credit overpayment to the Deposit Account of GTC, Account No. 070845.

Respectfully submitted,

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